



# AI AND ROBOTICS IN CONSTRUCTION

## FROM PERCEPTION TO ACTION



EUROPEAN  
ROBOTICS FORUM

euROBOTICS at the heart

24 March 2026

14:00 | 15:20

Lysefjorden B

Stavanger Norway

### MAIN ORGANISER

Jason RAMBACH DFKI

### CO-ORGANISERS

David CABALLERO FLORES UPC

Viktor WIBERG Algoryx

Antonio Alonso CEPEDA ACCIONA

Dimitrios GIAKOUMIS CERTH-ITI

Ali MUHAMMAD SDU



INVITED PROJECTS:



# AGENDA

24 MARCH 2026

14:00 - 15:20

14:00-14:03



WELCOME AND INTRO BY JASON RAMBACH (DFKI)

14:03-14:10



INVITED TALK – EUROBOTICS TOPIC GROUP CONSTRUCTION

**Project TARGET-X, Excellence Cluster CARE: Climate-Neutral and Resource-Efficient Construction**

Sigrid Brell-Cokcan (RWTH Aachen)

14:10-14:42



PROJECT PRESENTATIONS

▶ **RoBétArmé**

Dimitrios Giakoumis (CERTH)

▶ **BEEYONDERS**

Antonio Alonso Cepeda (ACCIONA)

▶ **DISCOVER**

David Caballero Flores (UPC)

▶ **XSCAVE**

Viktor Wiberg (Algoryx)

▶ **ShieldBot**

Sara Mata (IDEKO)

14:42-15:20



Q&A SESSION AND PANEL DISCUSSION

▶ **Sigrid Brell-Cokcan**

RWTH Aachen

▶ **Dimitrios Giakoumis**

CERTH

▶ **David Caballero Flores**

UPC

▶ **Antonio Alonso Cepeda**

ACCIONA

▶ **Viktor Wiberg**

Algoryx

**MODERATOR**

**Jason Rambach**

DFKI

# ORGANISER



## Dr. Jason RAMBACH

HumanTech project Coordinator

### ▶ JOB TITLE

Senior Researcher, Team Leader Spatial Sensing and Machine Perception

### ▶ AFFILIATION

DFKI

### ▶ BIO

Jason Rambach received his PhD in Computer Science in 2020 from the University of Kaiserslautern (RPTU) for his dissertation entitled "Learning Priors for Augmented Reality Tracking and Scene Understanding". He has been at DFKI Augmented Vision in Kaiserslautern since 2015. Currently, he is a Senior Researcher and Deputy Director leading the team "Spatial Sensing and Machine Perception" working on Scene Perception and Reasoning using Machine Learning.

His research interests include Object Pose Estimation and Tracking, Semantic Scene Understanding and Reasoning, Anomaly Detection, Hybrid AI, Robotic Vision and Augmented Reality. He has over 50 publications in leading Computer Vision and Robotics conferences, a best paper award from the IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2017, five awards at the BOP Object Pose Estimation challenge 2022 and 2023 at ECCV and ICCV and an outstanding reviewer award from CVPR 2025. He is a reviewer for several scientific journals and conferences (CVPR, T-PAMI, ECCV, ICCV, ICRA, IROS, WACV, BMVC). From 2022 to 2025 he coordinated the EU Horizon Project HumanTech, applying AI in the construction industry for Scan-to-BIM, Wearables and Assistance Robots. He is also a coordinator for the euRobotics topic group Construction and head of the DFKI competence center AI in Construction (AIC).



# SPEAKERS



## Dr. Dimitrios GIAKOUMIS

**RobetArme project Coordinator**

### ▶ JOB TITLE

Principal Researcher in Service Robotics

### ▶ AFFILIATION

Centre for Research and Technology Hellas (CERTH)

### ▶ BIO

Dr. Dimitrios Giakoumis is a Principal Researcher (Grade B') at the Information Technologies Institute of the Centre for Research and Technology Hellas (CERTH). His main research interests include human-robot interaction, robot vision, service robot perception and cognition, affective computing, human motion, activity and behaviour analysis and modelling, safe and social-aware robot navigation, biosignals processing and sensor management, multimodal interfaces, machine learning and pattern recognition. He has been working as a Researcher with ITI since February 2007 and he has been involved in more than 15 research projects, funded by the EC and the Greek Secretariat of Research and Technology. These include the Horizon 2020 RAMCIP, BADGER, HR-Recycler, Ageing@work and BACCHUS projects, where he also contributed to the Technical Coordination and Quality Management of the project consortium. He is the Coordinator of the Horizon Europe research projects RobetArme, MANIBOT and PLIADES, all focusing on AI, Data and Robotics.



## Antonio Alonso CEPEDA

**Beeyonders project Coordinator**

### ▶ JOB TITLE

MSc Industrial Engineer | PMP® | Innovation & Automation - Energy Specialist

### ▶ AFFILIATION

ACCIONA Construction

### ▶ BIO

Antonio is an Industrial Engineer specialised in the convergence of energy technologies, robotics, and strategic R&D management. His technical background includes Computational Fluid Dynamics (CFD) and thermal analysis for building energy optimization, alongside the development of robotic prototypes for the construction sector. In the latter, he has focused on implementing automation solutions and providing technical guidance for the industry's digital transformation.

During his time at the Innovation Division in Madrid (ACCIONA), he has managed multidisciplinary research groups and advised on strategic R&D lines within the ICT and Automation fields. Currently, he serves as the Project Manager for BEEYONDERS, an 8 M€ European project involving 21 partners. His career is characterized by leading complex international collaborations, effectively linking technical research with large-scale project management.



## Sara MATA

▶ **JOB TITLE**

Senior Researcher on Robotics for manufacturing

▶ **AFFILIATION**

IDEKO

▶ **BIO**

Sara Mata holds a PhD in Automatic Engineering and Systems Engineering from the University of the Basque Country, specialising in predictive control for autonomous navigation.

She has been a researcher in the Dynamics and Control group at IDEKO since 2018, working within the robotics area.

Her current research focuses on robotics applied to manufacturing, particularly on the robotisation of manual manufacturing processes.

She has participated in numerous national and international research projects in the field of robotics, both as a researcher and as a project manager, among which the European projects COROMA, GRINDBOT, COGNIMAN, and SHIELDBOT stand out.



## David CABALLERO FLORES

▶ **JOB TITLE**

Industrial Engineer and researcher

▶ **AFFILIATION**

Universitat Politècnica de Catalunya (UPC)

▶ **BIO**

David Caballero Flores is an Industrial Engineer and researcher at the Centre de Disseny d'Equips Industrials (CDEI-UPC), and Adjunct Lecturer in the Department of Mechanical Engineering at the Universitat Politècnica de Catalunya (UPC). His work focuses on the development of applied robotic systems and advanced sensing solutions for real-world environments.

Since 2017, he has been involved in the design, integration, and validation of robotic platforms combining mechanical development, embedded systems, and multi-sensor architectures (RGB-D, thermal, NDVI, GPR and environmental sensors). His expertise includes robotic platform design, field robotics, sensor integration, and sustainable system development.

He has participated in several European and regional R&D projects, contributing to the deployment of autonomous robotic solutions for agriculture, industrial applications, and digital twin environments, bridging research, engineering design, and technology transfer.



## Viktor WIBERG

▶ **JOB TITLE**  
Senior scientist

▶ **AFFILIATION**  
Algoryx

▶ **BIO**  
Viktor Wiberg received his PhD in Computational Physics in 2023 from Umeå University, where his research focused on learning-based methods for navigation in rough terrain. He is currently a Senior Scientist at Algoryx Simulation AB, working on physics-informed AI with a particular emphasis on heavy vehicle–terrain interaction.

His research interests include robot learning, sim-to-real transfer, multibody dynamics simulation, heavy mobile machinery, differentiable physics, and the integration of high-fidelity physics simulation with modern AI workflows.

He serves as local PI for the EU Horizon project XSCAVE, contributing to AI-enabled autonomy for heavy vehicles operating in challenging environments.



## Sigrid BRELL-COKCAN

▶ **JOB TITLE**  
Founder and director of the Chair for Individualized Production (IP)

▶ **AFFILIATION**  
RWTH Aachen University

▶ **BIO**  
Univ.-Prof. Dr.-techn. Sigrid Brell-Cokcan is the founder and director of the Chair for Individualized Production (IP) at RWTH Aachen University and co-founder and President of the Association for Robots in Architecture and was on the board of directors at euRobotics until 2021.

In recent years, she has pioneered the simple use of robots in construction. In 2016, Sigrid Brell-Cokcan co-founded the new Center for Construction Robotics in Aachen and the new Topic Group for Construction Robotics within euRobotics. In addition, as editor-in-chief, she has launched the new scientific Springer Journal Construction Robotics and is part of the author team of the living Springer Encyclopedia of Robotics | SpringerLink.

In 2020 Sigrid Brell-Cokcan has initiated the Reference Construction Site as the first European large scale testbed within the 5G Industry Campus Europe on RWTH Campus Melaten. In the last 5 years the Reference Construction Site has evolved as an open living lab of 4.000m<sup>2</sup> to a main digital and physical collaborative platform for numerous European and regional research projects with a total volume of more than 50 Mio Euro. Since 2026 the Reference Construction Site has become the primary test-site and technology platform for the new DFG Excellence Cluster CARE for Climate-Neutral and Resource-Efficient Construction.



# TECH4EU CONSTRUCTION



INVITED PROJECTS:

